Rule 81

SEQUENCE LISTING

<110> CHANG, Donald C
LUO, Qian

<120> Modified Fluorescent Proteins

<130> M99/0321/US

<140>
<141>

<160> 32

<170> PatentIn Ver. 2.1

<210> 1
<211> 39
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR primer

<220>
<221> CDS
<222> (3)..(38)

<400> 1
ct cca att ggc gat gaa gtc gac ggc cct gtc ctt tta c 39
Pro Ile Gly Asp Glu Val Asp Gly Pro Val Leu Leu
1 5 10

<210> 2
<211> 12
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: PCR primer

<400> 2
Pro Ile Gly Asp Glu Val Asp Gly Pro Val Leu Leu
1 5 10

<210> 3
<211> 39
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR primer

<400> 3

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gtaaaaggac agggccgtcg acttcatcgc caattggag                          39


<210> 4
<211> 4
<212> PRT
<213> Homo sapiens

<400> 4
Asp Glu Val Asp
  1


<210> 5
<211> 720
<212> DNA
<213> Artificial Sequence

<220>
<221> CDS
<222> (1)..(714)

<220>
<223> Description of Artificial Sequence: Possible
      cleavage site

<400> 5
atg agt aaa gga gaa gaa ctt ttc act gga gtt gtc cca att ctt gtt   48
Met Ser Lys Gly Glu Glu Leu Phe Thr Gly Val Val Pro Ile Leu Val
  1               5                  10                  15

gaa tta gat ggt gat gtt aat ggg cac aaa ttt tct gtc agt gga gag   96
Glu Leu Asp Gly Asp Val Asn Gly His Lys Phe Ser Val Ser Gly Glu
             20                  25                  30

ggt gaa ggt gat gca aca tac gga aaa ctt acc ctt aaa ttt att tgc   144
Gly Glu Gly Asp Ala Thr Tyr Gly Lys Leu Thr Leu Lys Phe Ile Cys
         35                  40                  45

act act gga aaa cta cct gtt cca tgg cca aca ctt gtc act act ttc   192
Thr Thr Gly Lys Leu Pro Val Pro Trp Pro Thr Leu Val Thr Thr Phe
     50                  55                  60

act tat ggt gtt caa tgc ttt tca aga tac cca gat cat atg aaa cag   240
Thr Tyr Gly Val Gln Cys Phe Ser Arg Tyr Pro Asp His Met Lys Gln
 65                  70                  75                  80

cat gac ttt ttc aag agt gcc atg ccc gaa ggt tat gta cag gaa aga   288
His Asp Phe Phe Lys Ser Ala Met Pro Glu Gly Tyr Val Gln Glu Arg
                 85                  90                  95

act ata ttt ttc aaa gat gac ggg aac tac aag aca cgt gct gaa gtc   336
Thr Ile Phe Phe Lys Asp Asp Gly Asn Tyr Lys Thr Arg Ala Glu Val
            100                 105                 110
```

```
aag ttt gaa ggt gat acc ctt gtt aat aga atc gag tta aaa ggt att   384
Lys Phe Glu Gly Asp Thr Leu Val Asn Arg Ile Glu Leu Lys Gly Ile
        115                 120                 125

gat ttt aaa gaa gat gga aac att ctt gga cac aaa ttg gaa tac aac   432
Asp Phe Lys Glu Asp Gly Asn Ile Leu Gly His Lys Leu Glu Tyr Asn
    130                 135                 140

tat aac tca cac aat gta tac atc atg gca gac aaa caa aag aat gga   480
Tyr Asn Ser His Asn Val Tyr Ile Met Ala Asp Lys Gln Lys Asn Gly
145                 150                 155                 160

atc aaa gtt aac ttc aaa att aga cac aac att gaa gat gga agc gtt   528
Ile Lys Val Asn Phe Lys Ile Arg His Asn Ile Glu Asp Gly Ser Val
                165                 170                 175

caa cta gca gac cat tat caa caa aat act cca att ggc gat ggc cct   576
Gln Leu Ala Asp His Tyr Gln Gln Asn Thr Pro Ile Gly Asp Gly Pro
            180                 185                 190

gtc ctt tta cca gac aac cat tac ctg tcc aca caa tct gcc ctt tcg   624
Val Leu Leu Pro Asp Asn His Tyr Leu Ser Thr Gln Ser Ala Leu Ser
        195                 200                 205

aaa gat ccc aac gaa aag aga gac cac atg gtc ctt ctt gag ttt gta   672
Lys Asp Pro Asn Glu Lys Arg Asp His Met Val Leu Leu Glu Phe Val
    210                 215                 220

aca gct gct ggg att aca cat ggc atg gat gaa cta tac aaa taataa    720
Thr Ala Ala Gly Ile Thr His Gly Met Asp Glu Leu Tyr Lys
225                 230                 235
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<210> 6
<211> 238
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: Possible cleavage site

<400> 6

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Met Ser Lys Gly Glu Glu Leu Phe Thr Gly Val Val Pro Ile Leu Val
  1               5                  10                  15

Glu Leu Asp Gly Asp Val Asn Gly His Lys Phe Ser Val Ser Gly Glu
             20                  25                  30

Gly Glu Gly Asp Ala Thr Tyr Gly Lys Leu Thr Leu Lys Phe Ile Cys
         35                  40                  45

Thr Thr Gly Lys Leu Pro Val Pro Trp Pro Thr Leu Val Thr Thr Phe
     50                  55                  60

Thr Tyr Gly Val Gln Cys Phe Ser Arg Tyr Pro Asp His Met Lys Gln
 65                  70                  75                  80
```

His Asp Phe Phe Lys Ser Ala Met Pro Glu Gly Tyr Val Gln Glu Arg
85 90 95

Thr Ile Phe Phe Lys Asp Asp Gly Asn Tyr Lys Thr Arg Ala Glu Val
100 105 110

Lys Phe Glu Gly Asp Thr Leu Val Asn Arg Ile Glu Leu Lys Gly Ile
115 120 125

Asp Phe Lys Glu Asp Gly Asn Ile Leu Gly His Lys Leu Glu Tyr Asn
130 135 140

Tyr Asn Ser His Asn Val Tyr Ile Met Ala Asp Lys Gln Lys Asn Gly
145 150 155 160

Ile Lys Val Asn Phe Lys Ile Arg His Asn Ile Glu Asp Gly Ser Val
165 170 175

Gln Leu Ala Asp His Tyr Gln Gln Asn Thr Pro Ile Gly Asp Gly Pro
180 185 190

Val Leu Leu Pro Asp Asn His Tyr Leu Ser Thr Gln Ser Ala Leu Ser
195 200 205

Lys Asp Pro Asn Glu Lys Arg Asp His Met Val Leu Leu Glu Phe Val
210 215 220

Thr Ala Ala Gly Ile Thr His Gly Met Asp Glu Leu Tyr Lys
225 230 235

<210> 7
<211> 4
<212> PRT
<213> Homo sapiens

<400> 7
Tyr Val His Asp
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<210> 8
<211> 4
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Caspase cleavage site

<400> 8
Asp Glu His Asp
1

<210> 9
<211> 4
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Possible cleavage site

<400> 9
Trp Glu His Asp
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<210> 10
<211> 4
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Caspase cleavage site

<400> 10
Leu Glu His Asp
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<210> 11
<211> 4
<212> PRT
<213> Homo sapiens

<400> 11
Val Glu Ile Asp
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<210> 12
<211> 4
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Caspase cleavage site

<400> 12
Leu Glu Thr Asp
1

<210> 13
<211> 4
<212> PRT

<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Caspase cleavage site

<400> 13
Leu Glu His Asp
1

<210> 14
<211> 3
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Possible cleavage site

<400> 14
Glu Val Asp
1

<210> 15
<211> 3
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Possible cleavage site

<400> 15
Asp Glu Val
1

<210> 16
<211> 4
<212> PRT
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<220>
<223> Description of Artificial Sequence: Possible cleavage site

<400> 16
Asp Glu Asp Asp
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<210> 17
<211> 5

<212> PRT
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<220>
<223> Description of Artificial Sequence: Possible cleavage site

<400> 17
Asp Glu Val Asp Gly
1 5

<210> 18
<211> 2
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<220>
<223> Description of Artificial Sequence: Possible cleavage site

<400> 18
Glu Val
1

<210> 19
<211> 6
<212> PRT
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<220>
<223> Description of Artificial Sequence: Possible cleavage site

<400> 19
Asp Glu Val Asp Gly Thr
1 5

<210> 20
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Possible cleavage site

<400> 20
Glu Val Asp Gly Pro
1 5

<210> 21

<211> 5
<212> PRT
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<220>
<223> Description of Artificial Sequence: Possible cleavage site

<400> 21
Glu Val Asp Met Gly
1 5

<210> 22
<211> 5
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<220>
<223> Description of Artificial Sequence: Possible cleavage site

<400> 22
Glu Val Asp Ser Gly
1 5

<210> 23
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Possible cleavage site

<400> 23
Glu Val Asp Arg Gly
1 5

<210> 24
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Possible cleavage site

<400> 24
Glu Val Asp Gly Gly
1 5

<210> 25
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Possible cleavage site

<400> 25
Ala Asp Glu Val Asp Ile
1 5

<210> 26
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Possible cleavage site

<400> 26
Trp Asp Glu Val Asp Val
1 5

<210> 27
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Possible cleavage site

<400> 27
Thr Asp Asp Val Asp Leu
1 5

<210> 28
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Possible cleavage site

<400> 28
Trp Asp Glu Val Asp Ala
1 5

<210> 29
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Possible cleavage site

<400> 29
Arg Asp Glu Val Asp Phe
1 5

<210> 30
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Possible cleavage site

<400> 30
Asp Glu Val Asp Gly
1 5

<210> 31
<211> 4
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Possible cleavage site

<400> 31
Glu Val Asp Gly
1

<210> 32
<211> 239
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: EGFP - mammalian enhanced GFP

<400> 32
Met Val Ser Lys Gly Glu Glu Leu Phe Thr Gly Val Val Pro Ile Leu
1 5 10 15

Amd B1

```
Val Glu Leu Asp Gly Asp Val Asn Gly His Lys Phe Ser Val Ser Gly
            20                  25                  30

Glu Gly Glu Gly Asp Ala Thr Tyr Gly Lys Leu Thr Leu Lys Phe Ile
        35                  40                  45

Cys Thr Thr Gly Lys Leu Pro Val Pro Trp Pro Thr Leu Val Thr Thr
    50                  55                  60

Leu Thr Tyr Gly Val Gln Cys Phe Ser Arg Tyr Pro Asp His Met Lys
65                  70                  75                  80

Gln His Asp Phe Phe Lys Ser Ala Met Pro Glu Gly Tyr Val Gln Glu
                85                  90                  95

Arg Thr Ile Phe Phe Lys Asp Asp Gly Asn Tyr Lys Thr Arg Ala Glu
            100                 105                 110

Val Lys Phe Glu Gly Asp Thr Leu Val Asn Arg Ile Glu Leu Lys Gly
        115                 120                 125

Ile Asp Phe Lys Glu Asp Gly Asn Ile Leu Gly His Lys Leu Glu Tyr
    130                 135                 140

Asn Tyr Asn Ser His Asn Val Tyr Ile Met Ala Asp Lys Gln Lys Asn
145                 150                 155                 160

Gly Ile Lys Val Asn Phe Lys Ile Arg His Asn Ile Glu Asp Gly Ser
                165                 170                 175

Val Gln Leu Ala Asp His Tyr Gln Gln Asn Thr Pro Ile Gly Asp Gly
            180                 185                 190

Pro Val Leu Leu Pro Asp Asn His Tyr Leu Ser Thr Gln Ser Ala Leu
        195                 200                 205

Ser Lys Asp Pro Asn Glu Lys Arg Asp His Met Val Leu Leu Glu Phe
    210                 215                 220

Val Thr Ala Ala Gly Ile Thr Leu Gly Met Asp Glu Leu Tyr Lys
225                 230                 235
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